



ISTC - Sustainable Seminar Series

Orange Going Green: IDOT's Drive Toward Sustainability

Steve Massey

**Sustainable Practices Manager
Illinois Department of Transportation**

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Steve Massey

Steve Massey is the Sustainable Practices Manager for the Illinois Department of Transportation. Steve came on board with IDOT in July of 2003 and has served as Senior Local Agency Liaison and Community Relations Manager prior to becoming Sustainable Practices Manager. He is a graduate of Illinois State University with a degree in Political Science. Steve's background includes serving as the former Administrator of Pre-Trial Diversion for LaSalle County .He is the former Vice President of Illinois Pre-Trial Diversion Programs in Illinois. Steve also has substantial radio and newspaper background. He also received a nomination for the Illinois Legislature at 21 years of age. Steve has worked with Green Initiatives for most of his IDOT tenure and has been instrumental in IDOT receiving several sustainability awards. He was instrumental in the Interstate Biosignage implementation in Illinois, production of the E-85/Biodiesel Stations Across Illinois brochure, IDOT Green Initiative brochure, promoting the use of PrePass by trucks, inclusion of biofuel station locations on www.GettingAroundIllinois.com and color coding of cities on the Illinois State Map index to indicate the cities that have biofuel stations, conceived and developed the Illinois Fallen Soldier Tree Memorial in Illini State Park, implemented the Annual 10,000 Trees to Schools initiative and the Annual Rain Barrel Design Contest to Illinois Schools. Steve is a member of the Governor's Green Government Coordinating and is Co-Chair of the Transportation Subcommittee. He has also served on the Green Schools K-12, Sustainable Universities and IT Subcommittees. He has also been a member of the Midwestern Governors Association Biosignage Steering Committee.

As IDOT's Sustainable Practices Manager Steve makes policy recommendations to the Secretary of Transportation and senior-level staff, Identifies sustainability opportunities that may provide the Department with significant benefit including grants and other financial savings, works to ensure compliance by tracking all environmental legislation that affects the Department, promotes throughout the Department and the State, the conservation of resources, energy efficiency, waste reduction and recycling, pollution prevention, increased reliance on renewable resources, and other measures consistent with sustainable living, coordinates further long-range sustainable practices by the department and works cross-departmentally.



IDOT's Green Initiatives

2014 Ongoing Green Initiatives:

- **Illinois Bike Plan**
- **Green Government Award**
- **Idling Policy**
- **Wind Turbine**
- **Annual Green Government Report**
- **Sustainability Scorecard and Performance Metrics**
- **Total Recycle Asphalt**
- **Curb Your Car/Bike to Work**
- **Walk to School Day**
- **Electric Vehicles**
- **Compressed Natural Gas Vehicles**
- **Zipcar**
- **Alternative Transportation Challenge**
- **40,000 Trees**
- **Alternative Fuels Data Center**
- **Sustainability Committee**
- **Facility Improvements**
- **Office Practices**
- **University of Illinois Study:**
 - **Switch Grass**
 - **Biomass/Energy Crop Production**
 - **Ash Tree Wood Initiative**

IDOT's Green Initiatives

Illinois Bike Transportation Plan:

IDOT along with Alta Planning and team partners have developed the Illinois Bike Transportation Plan. This plan will become the non-motorized chapter of the Long Range Transportation Plan. Based on the existing conditions analysis, plan recommendations will be made that include:

1. Planning and policy recommendations.
2. Safety, design and maintenance recommendations.
3. Regional-scale bikeway network recommendations.
4. Bikeway network implementation and prioritization recommendations.
5. State bicycling performance measures. Education, outreach and enforcement recommendations.
6. Funding recommendations.

[Click Here to View IDOT's Bike Plan!](#)



IDOT's Green Initiatives

Green Government Award:

On January 4, 2013 IDOT received a Governor's Green Government Award for the Rain Barrel Design Contest for Schools, "total recycle asphalt" and "Feasibility of Energy Crop Production in IDOT Right-of-Ways."

On March 6, 2014 IDOT received a Governor's Green Government Coordinating Council for Outreach and Education regarding the creation of the Illinois Bike Plan



Idling Policy:

An Idling Policy for IDOT vehicles has been approved and is now in place in the updated IDOT Vehicle Use Manual. CMS asked for a copy of the Policy as they would like to check into making the policy apply to all state vehicles.

IDOT's Green Initiatives

Wind Turbine:

A single wind turbine for green energy with an output of approximately 20 KWs will be installed at a rest area to supplement electricity at that particular rest area. Fall of 2014 is the anticipated construction date

Annual Green Government Report:

Prepared and submitted IDOT's Annual Green Government Report to the GGCC.

Sustainability Scorecard and Performance Metrics:

We are in the process of Implementing an IDOT Sustainability Scorecard that will grade IDOT projects *on the following sustainable components:* **Safety, Infrastructure Condition, Congestion Reduction, System Reliability, Freight Movement & Economic Vitality, Environmental Sustainability, and Reduce Project Delivery Days**



IDOT's Green Initiatives

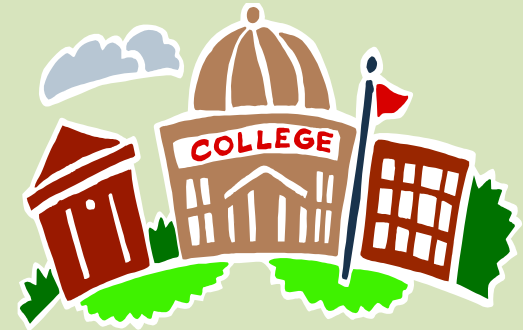
“Total Recycle Asphalt” Hot Mix Asphalt Surface Material:

The Region 1 Materials Lab (Schaumburg) has been performing trial mixes and testing combinations of various reclaimed materials to answer the challenge of developing a completely sustainable material that can be widely used. Initial testing has shown that it is possible to produce a material with physical properties equal to that of the conventional material that is currently in use. After evaluating the concept and implementing a specification the department used this mix on several projects during the 2013 construction season. The benefits that are expected from developing this concept further are material cost reductions on the order of 20 percent less than traditional methods and re-use of materials that might be otherwise land filled. There were three contracts that utilized the “Total Recycle Asphalt” Hot Mix Asphalt surface material” from this past construction season.

IDOT's Green Initiatives

Curb Your Car/Bike to Work:

Spearheaded the Curb Your Car/Bike to Work initiative again this year. 39 IDOT staff participated this year compared to 19 last year. The 39 participants logged over 4,300 miles using alternative transportation during the week of May 13—May 17, 2013. This year Curb Your Car/Bike to Work Week is May 19-May 24, 2014.



Walk to School Day:

IDOT once again promoted International Walk to School Day this October. Over 4,600 emails were sent to school administrator with information regarding International Walk to School Day. 167 schools participated this year.



IDOT's Green Initiatives

Electric Vehicles:

Three electric vehicles have been placed into service at IDOT with a total of 12,338 miles being logged to date.

Compressed Natural Gas Vehicles (CNG):

Began work with an initiative to implement a pilot project for CNG vehicles for IDOT. IDOT plans to implement a pilot project that includes at least an IDOT pick-up truck and large snow plow. This would include an inter-agency agreement with municipalities or transit districts for IDOT to use their CNG refueling facilities.

Zipcar:

40 plus IDOT employees have signed up for Zipcar. An IDOT Vehicle Use Committee is formed and IDOT's Bureau of Business Services has assigned a staff member to work with the Zipcar use and records; a *use* policy is being developed.



IDOT's Green Initiatives

Let's Go Green – IDOT's Alternative Transportation Challenge:

The Illinois Department of Transportation will be initiating a statewide alternative transportation challenge with online registration to promote the use of alternative transportation in Illinois. The challenge will take place September 1-30 as this month coincides with several key environmental dates

The challenge will ask folks to log in every time they use an alternative mode of transportation and indicate how many miles were travelled. At the end of the challenge, each participant will receive a certificate recognizing his/her commitment to the environment. Once all the information has been gathered, measured and analyzed, a final report will be made available to download showing the totals of miles saved, the total trips saved, pounds of CO₂ saved, total costs savings through the “Let's Go Green Challenge,” and the most frequently alternative mode of transportation used throughout the challenge. Participants are also encouraged to submit testimonials about their participation in this challenge. Stay tuned for more information on ways you can participate!

IDOT's Green Initiatives

40,000 Trees:

Over a four year span, over 40,000 trees have been distributed to schools and IDOT staff. The trees were free to IDOT from Living Lands and Waters (a not for profit environmental organization based out of the Quad-Cities area. We hope to partner with this tremendous organization in the future.

For more info, please visit:
<http://livinglandsandwaters.org>

Communications via State Map:

Utilized the U.S. Department of Energy Alternative Fuels Website link on the new state map for a listing of all alternative fuel stations in the nation.

The screenshot shows the homepage of the U.S. Department of Energy's Alternative Fuels Data Center. The header includes the U.S. Department of Energy logo and the text "Energy Efficiency & Renewable Energy". The main navigation bar features links for "FUELS & VEHICLES", "CONSERVE FUEL", "LOCATE STATIONS", and "LAWS & INCENTIVES". Below this, there are links for "Maps & Data", "Case Studies", "Publications", "Tools", "About", and "Home". The "Alternative Fuels Data Center" title is prominently displayed, along with a search bar and a "SEARCH" button. The page content is titled "Alternative Fuels and Advanced Vehicles" and includes a brief introduction about alternative fuels. Below this, there are six sections, each featuring an icon of a fuel nozzle and a description of the fuel type and its use in vehicles:

- Biodiesel**: Biodiesel is a renewable fuel that can be manufactured from vegetable oils, animal fats, or recycled cooking grease for use in diesel vehicles. [Diesel Vehicles >](#)
- Electricity**: Electricity can be used to power plug-in electric vehicles, which are increasingly available. Hybrids use electricity to boost efficiency. [Hybrid & Plug-In Vehicles >](#)
- Ethanol**: Ethanol is a widely used renewable fuel made from corn and other plant materials. It is blended with gasoline for use in vehicles. [Flexible Fuel Vehicles >](#)
- Hydrogen**: Hydrogen is a potentially emissions-free alternative fuel that can be produced from domestic resources for use in fuel cell vehicles. [Fuel Cell Vehicles >](#)
- Natural Gas**: Natural gas is a domestically abundant gaseous fuel that can have significant fuel cost advantages over gasoline and diesel fuel. [Natural Gas Vehicles >](#)
- Propane**: Propane is a readily available gaseous fuel that has been widely used in vehicles throughout the world for decades. [Propane Vehicles >](#)

IDOT's Green Initiatives

Sustainability Committee:

The establishment of the Illinois Department of Transportation Sustainability Committee was accomplished in 2013. This committee consists of representatives from all areas of IDOT. The mission of the Committee is to provide recommendations to IDOT that reduce greenhouse gases (GHG) emissions from transportation while creating healthier, more livable communities and greater economic opportunity across Illinois. (1) Members advise IDOT on sustainability-related priorities, issues and needs. (2) Provide recommendations on IDOT's sustainability policies including, but not limited to, IDOT's Sustainability Plan and Sustainability Scorecard tool. (3) Determine baselines for sustainability performance goal. (4) Collaborate with stakeholders across the agency and state government in the development of sustainability recommendations. (5) Ensure that all recommendations meet federal and state legislative mandates on sustainability policy and performance management.



IDOT's Green Initiatives

Facility Improvements:

This year, IDOT underwent several facility improvements to decrease the size of the department's ecological footprint. These include:

- Installed occupancy sensors
- Low flow fixtures on water faucets
- Capturing rainwater (rain barrels) for the watering of landscapes and rest areas
- Utilizing LED and T8 lighting to reduce energy use
- Installing white roofs at facilities to reflect heat and reduce energy use.
- Recycling of plastic bottles, aluminum cans, alkaline batteries, barricades, oil, antifreeze, paper, cardboard, toner cartridges, cell phones and office equipment.

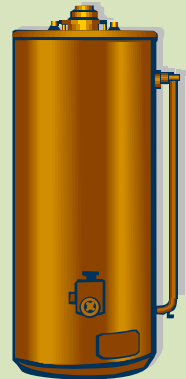


IDOT's Green Initiatives

For FY2015 there are 26 sustainable or green building upgrade projects on the table and 85 more in the works from FY2014, 13, 11, and 10.

Included are:

- **39 buildings with lighting upgrades**---Upgrades from T-12 to T-8 or LED lighting for energy efficiency
- **8 oil water separator projects**---Separates the oil from wastewater
- **19 white roof projects**----Reflects heat to improve cooling efficiency
- **5 insulation projects**----Improves heating and cooling efficiency
- **1 LEED Certified Building project**—IDOT Eisenhower to built as LEED Certified
- **1 tankless water heater project**---On demand hot water eliminates constant reheating of water that takes place in a regular water heater.
- **1 high efficiency boiler project**---Replacing less efficient older boiler
- **7 high efficiency HVAC system project**—Replacing older less efficient



IDOT's Green Initiatives

Office Practices:

IDOT, over the last few years has integrated several green practices into the daily business processes occurring across the state. **These include:**

- The circulation of most memos, forms and publications electronically
- 100 percent of publications are available electronically
- Copiers and printers that are equipped to print both sides are set to do so
- Office staff has been directed to print and copy to both sides
- Green office supplies are purchased as permitted by CMS contracts
- All print shop work orders are printed both sides unless otherwise specified by the customer
- *Recycled Content Copier/Printer Paper:* As of August 28, 2013, IDOT is now purchasing 30 percent of all copier/printer as recycled; up from 25 percent



IDOT's Green Initiatives

University of Illinois Study:

Switchgrass:

Opportunities to produce switchgrass on IDOT Right-of-Ways are being pursued with a study being conducted by IDOT and the University of Illinois. The process of identifying the best varieties of grasses for roadside growth is being studied along with the process of planting, harvesting, shipping and utilization. July 2014 makes the beginning of the final year of this three year study. A total utilization and business plan will be the end result. Please stay tuned for additional updates on this exciting initiative!

Continuation of the Feasibility of Energy Crop Production in IDOT Right-of-Ways:

This initiative would utilize nonproductive land (IDOT Right-of-Ways) by growing cellulosic grasses that can be converted to ethanol for E85 and also can be baled or pelletized for biomass heater use. The study is a three year study and July 2014 marks the third year of the study. Also, Initiated a plan to place a biomass heater at the Clinton IDOT maintenance facility.

Ash Tree Wood:

In 2013, IDOT began work on a plan for a green or sustainable use for ash tree wood. Ash trees need to be cut down due to the Ash Tree Borer infestation. The wood can be used in biomass heaters to heat maintenance facilities. In 2014, IDOT hopes to install and utilize a biomass heater at the Clinton Maintenance Facility that uses Ash Tree wood and cellulosic grasses.

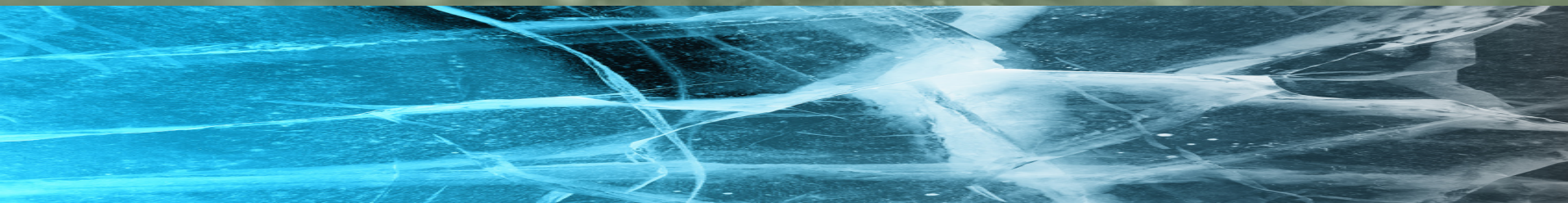


IDOT's Green Initiatives

2014 and Beyond

Each year, IDOT takes on many different initiatives and often makes great progress between initiation and implementation.

Maintaining the momentum from 2013 will be exciting for IDOT as the department strives to act in an interdisciplinary role while ensuring involvement in cross department efforts across the state in order to maximize and achieve sustainable goals for the entire state. This year we will continue to further explore solar power rest areas, smart transportation projects, additional bus on shoulder lanes, as well as identify more ways to reduce greenhouse gas emissions related to highway construction and maintenance. Also, we are in the process of revitalizing our website utilizing more-user friendly tools to enhance one's experience and are constantly identifying opportunities that will provide IDOT with significant benefits including grants and other financial savings. We will also need to Ensure compliance by tracking environmental legislation that affects IDOT and to continue to coordinate further long-range sustainable practices by IDOT.



IDOT's **Green** Initiatives



Let's Go Green!

<http://www.dot.il.gov/>